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LIBERAL ORIENTATIONS FOR VOCATIONAL TEACHING.

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WHAT TEACHERS ACTUALLY DO TO LIBERALIZE THEIR VOCATIONAL COURSES WAS STUDIED IN ORDER TO EXAMINE THE POSSIBILITY OF EXPANDING LIBERAL ADULT EDUCATION BY INTRODUCING LIBERAL GOALS INTO VOCATIONAL COURSES. QUESTIONNAIRES WERE RECEIVED FROM 118 TEACHERS IN EVENING COLLEGES AND EXTENSION DIVISIONS WHO TAUGHT (1) BUSINESS COURSES SUCH AS MANAGEMENT AND MARKETING, (2) BUSINESS SKILL COURSES SUCH AS ACCOUNTING AND TAXES, (3) NATURAL SCIENCE AND MATHEMATICS, (4) ENGINEERING, AND (5) EDUCATION AND MISCELLANEOUS. LIBERALIZING ACTIVITIES LISTED BY TEACHERS FELL INTO THE MAJOR DIMENSIONS OF (1) RELATING THE VOCATIONAL DISCIPLINE TO OTHER SUBJECT AREAS TO SEE THE TOTAL CONTEXT OF A FIELD OF WORK, (2) PLACING EMPHASIS ON AN ELEMENT OF GROWTH IN THE INDIVIDUAL WHICH TRANSCENDS THE PARTICULAR SKILLS OR INSIGHTS NECESSARY TO PRACTICE THE VOCATION EFFICIENTLY, AND (3) PLACING EMPHASIS ON AN ELEMENT OF GROWTH IN THE INDIVIDUAL FOR SOCIALLY-ORIENTED CHANGE. SUGGESTIONS FOR NEEDED RESEARCH AND ACTIVITIES TO INCREASE THE DEGREE OF LIBERAL ORIENTATION ARE GIVEN. (PS)

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A special series devoted to documents which, though prepared in a specific context and for a limited audience, are judged to be of such general interest that they merit wider distribution than that for which they were originally intended. They are presented in the hope that they will contribute to the more general sharing of information and opinion about questions of importance in the field of liberal education for adults.

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LIBERAL ORIENTATIONS FOR VOCATIONAL TEACHING

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CENTER *for the* **STUDY OF LIBERAL EDUCATION FOR ADULTS**

FOREWORD

This paper reports an attempt to collect and interpret some empirical evidence relevant to a not uncommon assertion—"Any course can be taught liberally." Such an assertion of course implies a fairly delimited definition of "liberal" or "liberal education." At the least it omits that meaning which relates liberal education to a content area, the "liberal arts." Although liberal education also is used in a way which refers it to a method or approach (discussion-oriented, or various other non-traditional techniques), a more common use, and the one which seems most apposite to the above assertion, is that which sees it as an outcome in the individual student: freeing him intellectually, broadening his mind, developing his critical thinking abilities. It may well be that the other two are in fact only successful if and when they help bring about such an outcome.

From this definition, the possibility follows that any course in any content area can bring about "liberal" outcomes (and that a course in the "liberal arts" need not). Starting with this supposition, Dr. Miller analyzed the responses to questionnaires filled out by teachers of adults around the country who feel that they do achieve some of these liberal objectives in technical, professional, or vocational courses.

A number of interesting hypotheses are raised in the analysis, and a very plausible typology constructed of the variety of "liberal" ways of teaching courses traditionally considered "non-liberal." It is hoped that further research will help to determine the accuracy of the teachers' belief that these techniques produce in the students the usual information and skills required of such courses, and the more abstract intellectual skills and abilities as well.

Daniel Solomon
Research Director
Center for the Study of Liberal
Education for Adults
February, 1963

This report describes an exploratory study to examine the possibility of expanding liberal adult education by introducing liberal goals into vocational courses.

In the technical realm, engineering schools in particular have attempted to develop methods of teaching aimed at precisely such objectives; Carnegie Institute and MIT have notably succeeded in infusing their curricula with undeniably liberal skills. In adult education too, individual administrators have asserted that teachers in their schools make their vocational courses partly liberal, although available examples of such efforts have been too few and imprecise to be useful to those interested in this approach. It was felt that a survey of the teachers themselves, to find out what they actually did in their vocational courses to make them liberal, would be helpful in opening up an area of inquiry that appears fruitful to those who would like to strengthen the liberal component of adult programs.

A questionnaire, frankly exploratory, with questions broad and general to stimulate the largest possible range of responses, was sent to cooperating deans and directors of evening colleges and extension divisions to pass on to teachers who, in their opinion, made efforts to liberalize their teaching. This report presents an account of the answers the teachers submitted.

The response to the survey, as the report will make clear, at least implies that the faculty teaching adults at the university level shows considerable interest in making vocational instruction liberal. Moreover, the faculty members who responded appear to be more articulate about the problem than we might have predicted. Administrators of adult colleges and divisions who are interested in the liberal education of adults, but whose situation does not permit them to establish an adequate program of liberal study as such, may well wish to take advantage of the possibilities inherent in these favorable predispositions. Several exploratory activities at the level of practice, as well as suggestions for needed research, are given at the conclusion of the report.

Review of the question.

There is a growing concern in American higher education generally about the steady encroachment of courses aimed at preparing students for specific professional, sub-professional, and vocational fields on territory formerly held sacred to the liberal arts. Recent studies of the liberal arts college indicate a steady chipping away at the number of credits formerly demanded for liberal studies, and although curricula devoted to preparing businessmen and scientists show signs of a balancing increase in the number of liberal or general education requirements, it is hardly enough to compensate for the general trend. However dismal the outlook for regular undergraduate education, it is still considerably better off than adult education, where a prevailing pragmatic temper, and a dependence on fees to support program life, results in an overwhelming preoccupation with the specific, the vocational, and the short-run, over the general, liberal, and long-term.

Because adult educators cannot, in most instances, demand "equal time" for the liberal arts, as their opposite numbers in the undergraduate schools can, they choose the likeliest substitute and try to produce liberal arts programs which have a measure of specific relevance to adult life, and which are attractive enough to compete in the marketplace for the consumer of education. The bulk of liberal adult programs in the universities are of this kind. But there has been considerable discussion for some time about another possible approach: to "liberalize" the existing, more numerous and entrenched vocational programs.

To consider such a possibility, of course, demands that we accept an assumption that there is a difference between "liberal arts" and "liberal education." Arts are traditionally disciplines, coherent bodies of knowledge, conceptual systems, and methodologies. If the teaching of the liberal arts is what we mean by "liberal education," then teaching vocational skills and subjects is, by definition, excluded, as Mortimer Adler and others explicitly do. But we can also take "liberal education" to mean a way of helping individuals grow in basic human intellectual skills, in social understanding, in insights, that transcend immediate application to a specific job. To be sure, it is considerably easier, not to say more likely, to achieve the objectives of liberal education by teaching Shakespeare than by teaching accounting. But if it is possible to teach accounting and achieve liberal, as well as vocational, skill objectives, it seems eminently worth trying.

Even Adler admits that many of the professions, law, for example, may enter his rather exclusive class of liberal subjects,[1] and few people would disagree, for legal training puts heavy emphasis on developing the time-honored liberal skills of intellectual analysis and rhetoric. Most of us, when we read speeches by Congressmen, are apt to reserve judgment on the issue of how successfully such training transfers to other fields, but will grant that legal schooling develops important intellectual skills.

The significant question that concerns us is whether it is possible to achieve such liberal ends at any level of vocational preparation; can business, accounting, secretarial and other such programs incorporate gains in more generally applicable skills and understandings? This was the central issue probed in our inquiry to the teachers of liberally oriented adult vocational courses (a questionnaire is appended).[2]

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1. Mortimer J. Adler, "Labor, Leisure and Liberal Education," Journal of General Education, VI, October, 1951.

2. The questionnaire was prepared by Dr. Daniel Solomon, director of research for CSLEA.

The replies.

The returns, of course, cannot be considered representative in any real sense. The questionnaires were sent to deans and directors who then chose the teachers to answer them. It can be assumed that the administrators who took the trouble to distribute the forms were those who were most interested in the question, and the teachers who bothered to reply were, for the most part, convinced of the importance of the issue. Thus, it is hardly likely that the distribution of replies among the vocational fields as summarized below in any way represents a true picture of the distribution of the kind of teaching university instructors of adults do:

Field	No. Replies
Business courses, higher level: management, marketing, etc.	45
Business, skill courses: accounting, taxes, etc.	23
Natural science and mathematics	18
Engineering	12
Miscellaneous, including education	20
Total	118

Many of the replies referred to more than one course taught by the instructor, in some cases as many as five or six, so our sample of courses is considerably higher.

The analysis concentrates on the answers to the first few questions (What course or courses do you teach? Do you teach any of them in such a way as to achieve the "liberating" or "broadening" objective described above? What specifically do you do which gives the course its "broadening" flavor?); data on the other items failed to reveal any particular trends. A few examples from the teachers' responses[3] may provide a helpful picture of the data which we will deal with only in categorical form. A teacher of educational methods courses, for example, lists these specific items as activities which give his course a liberal content:

1. Carry philosophic approach into all courses
2. Emphasize "values" in consideration of procedures and techniques
3. Challenge preconceived notions, customs, and habits
4. Require justifications for positions taken, or procedures followed
5. Promote search for, and identification of, common elements
6. Encourage students to unify disparate learnings from all pertinent fields
7. Lead students to find and justify their own topics for reports, term papers, and theses
8. Encourage critical attitude, individual judgment, personal responsibility, logical thought, and effective expression.

He considers the objectives achieved through such efforts to include:

1. Leads students to define and adopt their own standards of excellence

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3. Most of the answers were serious attempts to deal with the important question we raised, although they varied considerably in understanding of the issue and in clarity. There were what seemed to be more than the ordinary amount of critical comments on the questionnaire itself, but perhaps this is typical of the queried academic. For example: "From the way your question is worded, I take it your group is the typical 'educational-jargon' society that has put American education in its present weak condition. Perhaps the 'howls' from the brave voice of Vice Admiral H. G. Rickover, USN, will arouse the American people to 'toughen up' its education—without any prostitution of the liberal arts program."

2. Promotes a spirit of self-reliance
3. Promotes a spirit of detachment and suspended judgment
4. Develops the spirit of experimentation under the guidance of tentative and established principles.

An instructor of introductory business courses and supervision, notes:

> In the Supervisory Management course, the students are directed into a study of the history of labor to help them have a better understanding of the sentiments of labor. They also do readings in various sociological studies. In the Introduction to Business course, students do some (not much) reading from famous essays to help them understand that management goes beyond the range of business. In the Adm. Management course, students work with American Labor Cases, Pareto's philosophy, and the classic sociological study of Management and the Worker. . . . Even such a narrow course as Industrial Management takes up a section on time study (what could be narrower) and spends many class hours in discussing the sociological, psychological, and physiological implications of such a management tool.[4]

What the teachers say they do that is "liberal."

The responses taken together, when sorted into relevant categories, yield several remarkably consistent dimensions[5] of what these teachers mean by liberal. Although individually they suggest many different kinds of activities, their efforts seem to fall along the following three major dimensions:

1. Subject-matter dimension—relating the vocational discipline to other subject areas to see the total context of a field of work.
2. Dimension of individual growth—placing emphasis on an element of growth in the individual, transcending the particular skills or insights necessary to practice the vocation efficiently.
3. Dimension of social growth—placing emphasis on an element of growth in the individual for socially-oriented change.

Appendix B lists, under the headings proposed by this classification scheme, illustrations of the suggestions made, or practices cited by teachers. Here we wish to look somewhat more interpretively at the data in an effort to visualize the approaches they imply.

1. The Subject-Matter Dimension

This is possibly the clearest and the most obvious of the dimensions. It results, as we said above, from attempts to relate the vocational discipline to other essentially subject-matter areas.

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4. Our very wide net brought up a number of other instances which we were forced to eliminate as reasonable examples of liberal objectives. The most common of these were descriptions of teaching methods which confused liberal effects with active teaching methods; these instructors presumably think that straight lecturing is illiberal, and departures from that norm are liberalizing. For example: one introduces "feed-back" in a continuous manner; another cites his assignment of projects which must be worked out in a real factory, with a real executive; many mention that they insist that students apply learned principles to case studies taken from real life; another common claim is that they keep drill to a minimum and emphasize discussion. All of these constitute good teaching procedures, to be sure, but it is difficult to argue that they necessarily go beyond the teaching of the vocational skill or subject itself.

A second order of responses which we eliminated consists of recognized liberal arts subjects taught to students in a vocational program, for example, a course in Modern Thought for engineers, and the use of liberal disciplines which are essentially part of the vocational skill being taught. In this category we included such responses as: dealing with material from psychology in a course for salesmen, a direct contribution to selling skill; reference to current research work, in a course on chemistry; emphasis on human relations in a course in management. There were even, strangely enough, one or two responses which can only be classed as teaching a liberal subject to liberal arts students, as in the case of the course "Plants and Mankind" for liberal arts majors.

5. No doubt one could construct an a priori system which might be more coherent and more exhaustive of the possibilities, but it is interesting to find the results of such a thoroughly empirical inquiry falling so neatly into at least a rough system.

This approach assumes that it is more liberal to help people understand the general context of a field of work, and its connections with other fields, than it is to focus narrowly on matters of competence strictly within its boundaries. It is easy to visualize the categories into which the examples submitted fall as a series of concentric circles, with the vocation itself at the center, and the teacher undertaking to relate it to surrounding areas, some of which are fairly close, others quite distant. The following diagram represents this procedure as it might look in a course in accounting.

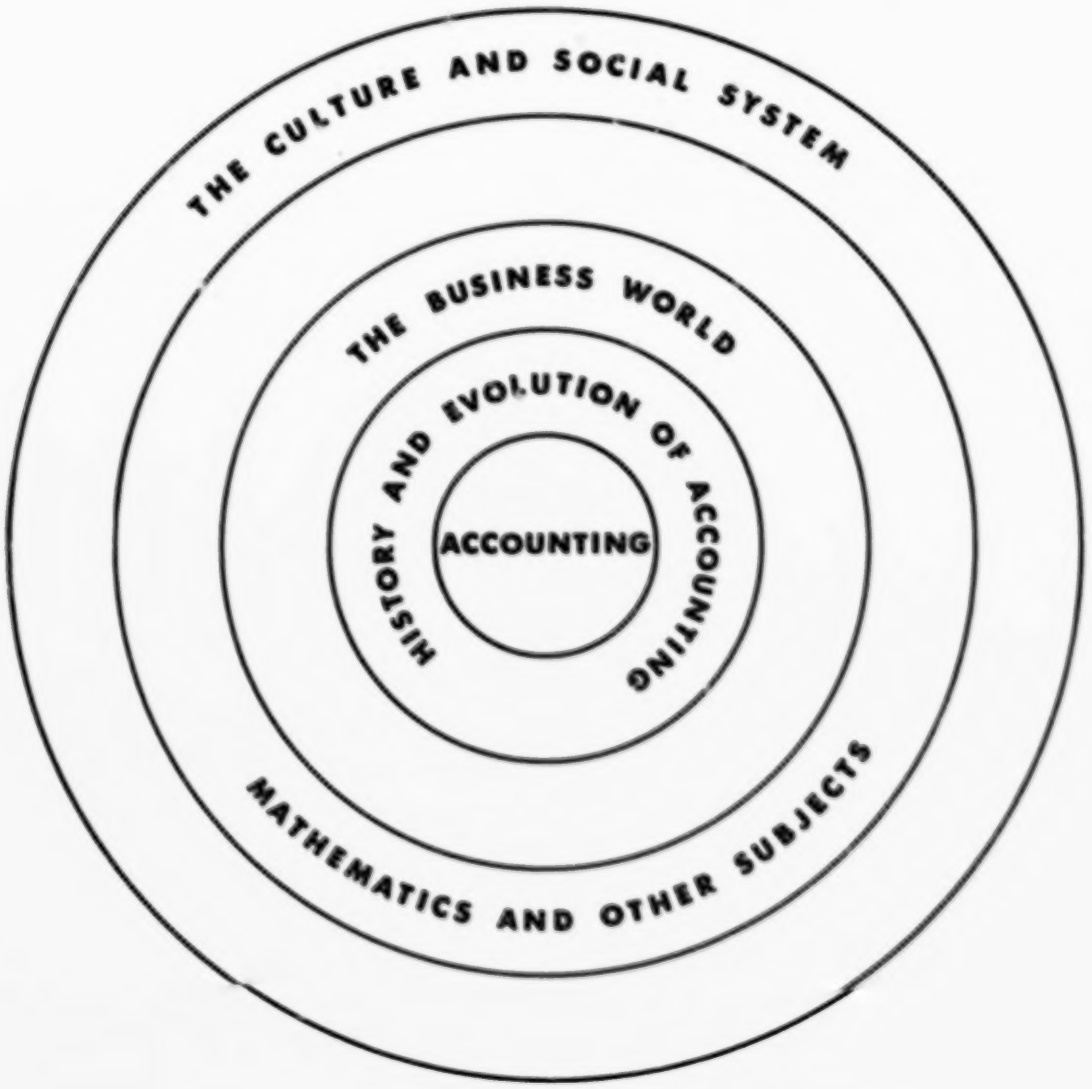

Figure 1

At the core is the vocation, the particular discipline—in this case, accounting. It has a long history; an accountant who knows how some of his techniques developed out of ancient Egyptian life is presumably a broader person than his fellow accountant who does not. Accounting is embedded, moreover, in the vast field of business itself, and is significantly related to business decision-making. At still further remove, it is related as an applied discipline to mathematics. Finally, the kind of culture we live in influences the problems which accountants face, and they, in turn, influence it in many ways. Awareness of all these expanding and overlapping relationships clearly frees the individual from the limitations imposed by the rigid life boundaries set by routine activities at which he spends most of his time.

2. Dimension of Individual Growth

This dimension is closely related to the third—socially-oriented change. Both imply that emphasis, instead of being on the subject matter or the discipline of the course, is on some element of growth in the individual which transcends the particular skills or insights necessary to practice his vocation efficiently. The first of these, the individual growth dimension, can be visualized as a continuum on which one can order a series of categories which vary from feeling states of the individual, to very complex general cognitive abilities, as in Figure 2.

Dimension of Individual Growth

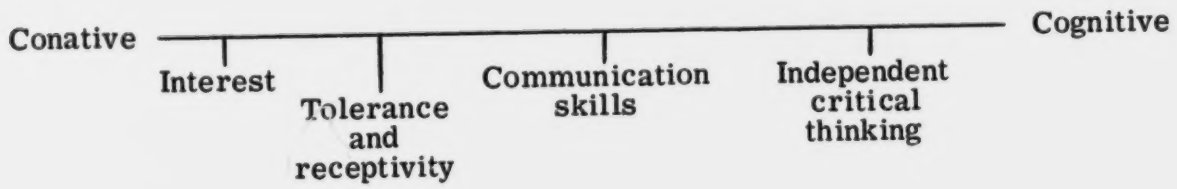

Figure 2

Several instructors include the awakening of real interest in a field as liberal, with some justification; there can be little that is more dehumanizing than to spend one's time at routine tasks without ego-involvement. The second category is self-explanatory, and surely liberalizing, a freeing from the bondage of pre-judgment and the closed mind. It was not, however, a very frequent response. The skills of communication are perhaps on the borderline, primarily cognitive, but involving some degree of empathy. In the responses, the skill of critical thinking or analysis, sometimes treated as equivalent to an ability to follow "the scientific method," was by far the most popular category on this dimension.

3. Dimension of Social Growth

The social dimension is slightly more complex, as indicated in Figure 3. The continuum itself, in this case, might be thought of as a measure of distance from the concerns of the student.

Dimension of Social Growth

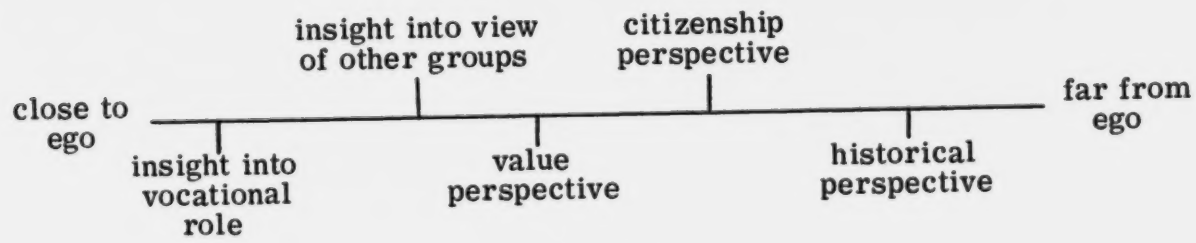

Figure 3

Thus, closest to the self is an understanding of the vocation or profession as a role which must be congruent with self-concept. Next, an understanding of the way in which other groups in the society perceive one's own vocational group, and an ability to evaluate those perceptions. Third, an emphasis on the social consequences of the way in which the vocation or profession operates; ethics and morality, which form a value perspective. Somewhat related to this is a narrower interest in one's citizen role, particularly as it might conflict with the demands of the vocational outlook. Finally,

an historical perspective that is different from the historical category considered under the subject-matter orientations. History means the history of the vocation itself, its origins and development; on the social dimension, it comes closer to meaning a relationship of the vocation to the history of man and his future.

Distribution of responses.

Each of the vocational course types represented in our sample contributed differently to the dimensions described above. The responses are summarized on the chart; the figure in each cell represents the proportion of that particular type among the total responses from people in the specific vocational field. Thus, 6 per cent of all the suggestions from instructors who taught upper-level business courses were classified as advocating some material on the history of business.

DISTRIBUTION OF TYPES OF LIBERAL ORIENTATION ADVOCATED BY EACH VOCATIONAL FIELD, BY PERCENTAGES

	Upper Business	Lower Business	Natural Sciences	Engineering	Miscellaneous
History of discipline	6	0	0	0	4
Relation to field	3	20	0	7	4
To other fields	22	23	20	0	15
To culture	4	10	15	13	15
Devel. int.	8	0	7	0	9
Tolerance	2	0	4	0	0
Communication	6	5	0	0	0
Thinking	25	28	18	26	33
Role insight	3	5	0	7	4
Ins. others	2	0	0	0	0
Value perspective	10	10	4	20	10
Citiz. perspective	2	0	0	7	0
Hist. perspective	9	0	30	20	4

Implications for further activity.

The major aim of an exploratory study such as this one is to discover fruitful areas of further activity based on general findings. Clearly much more study of the meaning of these dimensions and of their educational importance will be required before the full potentiality in this area of programming will be known. In the meantime, however, there are a number of promising steps that any administration might initiate with useful effects. Below are some examples of such activities that might be undertaken by institutions at the level of practice, as well as suggestions for further research.

A. At the Level of Practice

1. To increase the degree of liberal orientation.

As a basic step toward liberalizing the vocational courses in his institution, an administrator might set up a working committee of faculty members who have taught for some time in the adult

division, to consider the possibilities of developing a gradually expanding local program aimed at a wider liberalization of all professional programs. This kind of basic step has a number of advantages. For adult divisions with small staffs it represents a feasible move without the need to commit great amounts of administrative time; for an institution, it provides the basis for a genuinely local program of activity, growing out of the particular nature of the college and its adult program. The committee might address itself first to the task of constructing a policy statement on liberal orientation, later of suggesting to the administration possible activities appropriate to the local situation.

2. To clarify the "liberalizing" objectives.

The kinds of liberal objectives the vocational area teachers submitted,[6] fit in very well with most of the objectives which were specified during the course of the evaluation project undertaken by the Center in collaboration with a group of adult educators who run liberal programs. If we look at the categories of objectives, in our classification of the teacher's responses, however, we can see gaps, particularly in the dimension of individual growth, and even the proposed objectives are, in most cases, far from adequately spelled-out.

The obvious relevance of the findings in the evaluation project, at least at the point at which one deals with the identification and operational specification of liberal objectives, suggests a developmental step that makes use of the finding of that study. Small groups, composed of program administrators and teachers in each of the major vocational areas, might examine closely the specifications of liberal objectives that emerged from the evaluation project, modify them for their own purposes, and add to them carefully worked out elaborations of those objectives which they feel are special to their own field. As a project, this has the advantage of presenting people with a clear-cut, obviously useful step in a new direction. This project might be undertaken at a single institution, or, perhaps more suitably, by a number of cooperating schools.

Another kind of project to elaborate objectives in relation to particular vocational fields is also suggested by our survey. While we do not know for certain (all fields were not sampled), the survey data suggests the possibility that instructors within broad fields tend to stress certain liberal objectives and to ignore others. This may be a result of an intuitive recognition that some objectives are peculiarly appropriate to their field, or it may simply represent a turning toward the most obviously related objectives. An institution might find it very useful to divide its program into segments, perhaps on the basis of the classification used in the study (Business skills, Upper-level Business, Engineering, Natural Science, and Others, see page 3), or develop its own groupings, and plan a series of weekly conferences, one for each group. Each conference would address itself to the problem of determining those liberal objectives which are most appropriate to its particular field, and which are most possible to achieve in the courses normally offered within it. Participants might also wrestle with the question of whether objectives might be distributed among the courses in the field; courses in accounting might appropriately stress one particular objective, courses in marketing another.

3. To define teaching practices.

Another possibility for action arises from the fact that our data (see especially Appendix B) demonstrate an understandable vagueness about what the instructor actually does, or has the stu-

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6. H. L. Miller and C. H. McGuire, Evaluating Liberal Adult Education, CSLEA, 1961.

dent do, to achieve the hoped-for liberal objective. Our respondents are, in fact, somewhat more precise about this than most liberal arts teachers, but it would be helpful to get some clearer idea than "assigned reading in philosophy," or "show the cultural influence on management decisions," and the like.

Any institution could undertake the task of collecting teaching ideas from its instructional staff, and, with a moderate amount of work, help shape these ideas into precise statements of procedures. The success of such an effort depends partly on selecting the right people. In the area of business, for example, there are a number of highly ingenious management consultants who have developed training ideas aimed at increasing flexibility and creativity. Some of these ideas are painful evocations of Madison Avenue conference ritual, but some of them are first-rate educational procedures. Another useful group to start with are those liberal arts teachers who have been involved for a time in teaching in business or professional programs.

If one can locate the appropriately useful people, both on campus and off, a staff member of any adult division might compile a compendium of bright teaching ideas aimed at liberal objectives, with the expenditure of very little time. He might, for example, arrange to have lunch with small groups of three or four such people; three or four teachers in a business program, or an engineering program, confronted with a list of very specific objectives and encouraged to talk about what they might do in their own fields of interest to achieve such objectives may come up with a fair number of specific suggestions. Enough of these luncheon sessions might, over a period of time, make it possible to issue collections of such suggestions for each major program area to all of the faculty who teach in that area. If several institutions were engaged in the same activity, cooperating staff members might work jointly at producing such manuals.

B. Needed Research

The questionnaire data also raise questions for which a more basic kind of research seems required.

If the sample is in any sense trustworthy, there do appear to be some patterned differences among the various vocational fields. All of them, including the heterogeneous collection of courses, agree on a healthy stress on the improvement of the ability to think independently and critically, whatever that may mean. All but upper-level business courses appear to place a secondary stress, at least, on the relation of the field to the wider culture. Is there any significance in this one exception, and does it bear any relation to the fact that engineering is twice as much interested in the total social dimension than upper-level business appears to be?

Such differences may be purely a result of a biased sample, or of the way in which the questionnaire was worded; some people may have mentioned only those things they considered most important, and omitted to mention other things that they do or would like to do. But if the differences are not simply an artifact or sampling, it would be interesting to look at biases which arise, perhaps out of the special blinkers which people in a particular field wear.

Beginning with the categories that emerged from the study, and filling them out systematically, perhaps one could ask a good sample of teachers in various vocational fields to put them in what they see as a desirable rank order. This might serve to highlight those objectives on which one ought to concentrate developmental effort for a given field, but not before a long, hard look at those objectives which the majority of teachers slighted. The outcome of such a study would have

both developmental and research value. It would relate to occupation theory, at least peripherally and perhaps centrally, depending on the ingenuity with which the study was done; and it would assign priorities for the development of materials and methods for the particular field.

The real pay-off research question, of course, is whether or not the educational effects which most of the respondents assumed actually occur. Do students not only learn to solve a management problem more efficiently, but improve their approach to any kind of problem at the same time? Does an understanding of the time-relations of his own field contribute to a heightened sense of history generally? Do any of the competences or insights which are necessary to carry out our jobs but which are not necessarily restricted to the job, spread to other areas of life? The answers to any of these questions, even to the most general of them, are very far from clear.

The lack of clarity is in spite of the fact that transfer of training is one of the persistent problems in learning psychology, exhibiting, as psychological problems go, not only a long but a rather checkered career. The early behaviorists, Thorndike, for one, were interested in the possibility that people could transfer learning from one situation to another; he suggested that the I.Q. test itself is a measure of how well a student transfers, a sign of his ability to get right answers in novel situations. Neo-behaviorism, on the other hand, has been impatient with transfer. Guthrie snappishly insists that transfer only occurs when one has a specific reproduction of the original stimulus situation in which the response was learned; if you want something that looks like transfer, you must train people for as many specific situations as possible. All cognitive theories, however, expect a great deal of learning to transfer, though they are often rather vague about the conditions under which it ought to happen.

But if there is confusion in the ranks of psychologists about the possibilities of transfer, there is even less clarity among those who are responsible for vocational and professional education about the desirable ends of liberal training. The issue has been fiercely debated particularly in the area of business education, where liberal objectives often appear to be in conflict with vocational effectiveness. Is a manager who has the capacity to see the larger national and international consequences of business decisions likely, therefore, to make "bad" decisions from the viewpoint of his particular enterprise and its local, competitive position? It is often suggested that he might; yet, from the educational point of view, would training aimed at helping executives achieve a broader perspective be successful if it did not transfer to his business decisions?

These are questions that research is clearly unable to resolve, but on which it might throw some clarifying light. Other ideas for both practice and research will undoubtedly occur to others as they examine the data. This report is intended to open a field that appears to be an extraordinarily fruitful one for work by those who are impressed by the need to strengthen liberal education for adults, and who realistically see as significant forces the present limitations on such education imposed by economics and culture.

Appendix A

QUESTIONNAIRE

The research staff at CSLEA is undertaking a study of the teaching of professional, technical and vocational courses. A particular first aim is to discover whether there are teachers who teach courses of these types in certain non-traditional ways so that a "liberating" or "broadening" experience is intended for the student, through revealing connections between a specific skill or area of knowledge and principles or generalizations which apply to other skills and other fields of knowledge or through the examination of broad implications and consequences of activities in one field upon those of another; in short through the consideration of the general, broad, direct or indirect relevance of the given field of study upon any outside areas of knowledge or behavior.

In line with this intention, we should appreciate your responses to the following questions, and as prompt a reply as possible.

1. What course, or courses do you teach?

2. Do you teach any of them in such a way as to achieve the "liberating" or "broadening" objective, as defined above? (If not, please disregard the rest of the questionnaire.)

3. (If yes) What, specifically, do you do which gives the course its "broadening" flavor?

4. Do you think that you achieve the same objectives as do your colleagues who teach the courses in traditional ways, or of teachers who have taught in traditional ways in the past?

5. Do you achieve any additional objectives? If so, what are they?

6. Are there personal characteristics which you possess which you think might make you particularly suited for this kind of teaching?

7. Do you have any additional comments regarding this problem, and the general feasibility and advisability of teaching courses such as yours in ways which aim to "liberate" the student?

NAME_____

INSTITUTION_____

Appendix B

RESPONSES

Illustrations of suggestions made, or practices cited, in teachers' responses, under the headings proposed by the classification scheme adopted for analysis, page 4.

I. Subject-matter Dimension

A. History of the discipline

Historical and cultural framework of teaching
Historical evolution of business techniques
Historical background of taxation
Relate aircraft accident prevention to past history, including Greek mythology
Constantly remind students of finance of association with other fields

B. Relation to Larger Field

Relate library administration to broader field of public administration
For science teachers: synthesize broad ideas from all the sciences
For engineers: emphasize general theorems of math instead of application
Relate accounting to economic analysis by emphasizing part in decision-making process
Relate advertising to entire marketing field
Relate marketing to economics and finance
Give history of labor in management course

C. Relation to Other Fields

Show interrelations of mathematics with the sciences
Demonstrate impact of mathematical problems on quantification in the social sciences
Relate marketing to behavioral sciences
Stress human relations, law, economics, in secretarial course
Show psychological effect of the written word, in business English course

D. Relation to the Culture

Social and philosophical origins of modern educational practice
Demonstrate how graphics literally supports the culture
Relevance of adult education to world affairs
Relate technical data in engineering geology to economics and social conditions
Relate industrial engineering to world events
Demonstrate social benefits of thermodynamics
Tie current events into elementary biology and physics
Emphasize social and psychological forces on the marketplace; have students read in these areas
Stress understanding of sociological conditions which produce problems for business insurance
Cultural influences on management decisions, and the social context of business policy
Politics of tax legislation

II. Dimension of Individual Growth

A. Awaken Interest

Try to generate enthusiasm
Stimulate interest in current developments in physics

Use examples from everyday life
Encourage students to continue schooling

B. Tolerance and receptivity

In a course on probability, point out the importance of learning for the sake of learning
Try to develop general attitude of receptivity

C. Communication skills

Stress communication aspect of technical writing
Force student to develop his own methods of presenting accounting and statistical results
Emphasize written and oral expression in seminar in small business

D. Independent, critical thinking

Read philosophical works in the original, in course on community resources
Encourage critical attitudes
Have class participate in generalization-forming activities
Pose problems which demand student interpretation of logical limitations
Allow students to find for themselves errors in commonly accepted practices in time and motion study
Assign term paper in engineering science which forces students to come to grips with a non-quantitative aspect of engineering
Relate engineering thinking to general thinking processes
Stress independent research and method in biology class and in examination
Deal with mathematical truth vs. scientific truth
Generalize from mathematics to the solving of any kind of problem
Stress interpretive and analytic functions in accounting
Show lack of relation of mathematic models to "truth"
In accounting, use null-hypothesis approach to weighing differences before generalizing
Emphasize reasoning process behind business policy
Stress logical thinking in statistics course
Emphasize submission of ideas to reflection, mental courage
Encourage a questioning attitude

E. Historical perspective

Relate laws of property to thought in other times and places
Historical background of restaurant management, etc.
Show how biological events shape history
Relate biology to history of western culture
Stress history of probability theory
Historical context of math and statistics; the industrial and social flavor of the times out of which it developed
Relate management to man's history and future, and to context of technological conditions
Stress relation of management to political philosophy and history

III. Dimension of Social Growth

A. Insight into vocational role

Examine the task of teaching—the "examined life" is what liberal means
Develop love of craftsmanship, for restaurant managers
Try to get office managers to look at problems through employees' eyes
Get managers to understand that modern business is run by teams, not individuals

B. Insight into views of other groups

Present views of industry held by consumers, investors, and citizens

C. Value perspective

Challenge preconceptions about education—in teachers
Relate property law to basic philosophy of property
Assign papers on "what constitutes success in life?" in course in mechanical engineering

Raise problems of moral duty in civil engineering
Analogize control of tools in metal fabrication to man's need to control and refine behavior
Stress philosophical foundation of original energy source, in thermodynamics
Instill concept of right and wrong, re taxes
Assign library research involving philosophy in an accounting course
Stress understanding of ethical and religious meaning of marketing
Deal with ethics in business policy
Illustrate social and moral consequences of economic behavior
Stress philosophy behind regulatory policy in taxation
Implications of management behavior for society
Encourage the reading of the "great books" in management courses
Impact of business techniques on society

D. Citizenship perspective

Stress patriotic duty of civil engineers
Improve citizenship for management personnel

THE CENTER *for the* **STUDY OF LIBERAL EDUCATION FOR ADULTS** was established in 1951 by a grant from the Fund for Adult Education to work with universities seeking to initiate or improve programs of liberal education for adults. The purpose of the Center is "to help American higher education develop greater effectiveness and a deeper sense of responsibility for the liberal education of adults." Communications may be addressed to the Director, 4819 Greenwood Avenue, Chicago 15, Illinois.

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